TRANSPORTATION CONCEPT REPORT
STATE ROUTE 7

11-IMP-7 P.M. 0.0 - 6.7

December,1994

State of California
Department of Transportation
District 11 - System Planning Branch
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EXECUTIVE SUMMARY

State Route 7 (SR-7), is a proposed four lane highway with access control which will begin at the proposed United States/Mexico Calexico East International Border Crossing, approximately 6.5 miles to the east of the existing Calexico/Mexicali International Border Crossing. The first segment of the 6.7 mile route will follow a north/south alignment from the border crossing to SR-98. Several alternative alignment options for the second segment of SR-7 are being studied, including Orchard Road, Barbara Worth Road, or improving SR-98 from the SR-7/SR-98 junction to SR-111. These three alternatives will remain under consideration until a preferred alternative is selected during the environmental process.

Transportation Concept (2015)

The Transportation Concept for State Route (SR-7) is displayed in Table S-1. Table S-1 examines the route in segments for traffic analysis and other purposes and lists the facility type and the number of lanes for 2015, the Average Daily Traffic (ADT) for 2015, the Peak Hour Volume to Capacity Ratio (V/C) for 2015, the 2015 Peak Hour Operating Level of Service (LOS), the 2015 Transportation Concept LOS, and whether the segment is in a rural or urban area.

The 2015 Operating LOS for SR-7 is based on California Department of Transportation (Caltrans) traffic forecasts and assumes completion of the future regional transportation system. The 2015 Operating LOS includes all proposed State highway and regional arterial improvements. The 2015 Transportation Concept LOS is based on District System Planning LOS guidelines.

The post-2015 Ultimate Transportation Corridor (UTC) describes the future right of way requirements in terms of facility type, number of lanes and right of way width in feet that may be needed to accommodate corridor trips beyond the year 2015. Right of way width can be variable depending upon the dimensions of cross-sectional elements and specific circumstances which may require narrow widths. Minimum right of way width includes the roadbed, shoulder, clear recovery area, and minimum catch point distance to the cut or fill slope. Additional right of way may be required for structures, slope modifications and drainage facilities. The number of lanes and facility type for the UTC are shown in Table S-1. The minimum right of way width of 204 feet is based on the February, 1993 Project Study Report/Project Report for SR-7 from the International Border Crossing to SR-98.

TABLE S-1
2015 TRANSPORTATION CONCEPT

Segment/ County Post Mile	Location	No. Lanes/ Facility Type	ADT	Peak Hour V/C Ratio	Peak Hour Operating LOS*	Concept LOS**	Rural/ Urban	UTC/ Width
1 IMP 0.0 - 1.2	U.S./Mexico Border to SR 98	4AC	39,200	.50	C	D	R	6AC/204
2 IMP 1.2 - 6.7	SR 98 to I 8	4AC	23,800	.31	B	D	R	6AC/204

4AC = Four lane highway (with access control where appropriate or feasible)
ADT = Average Daily Traffic
LOS = Level of Service
R = Rural
UTC = Ultimate Transportation Corridor
V/C = Volume to Capacity

* Peak Hour Operating LOS includes provision of State highway and arterial improvements
** Concept LOS is based on District System Planning LOS guidelines.

Note: Widths are in feet.

Concept Rationale

The Federal General Services Administration (GSA) has proposed a new Calexico East International Border Crossing approximately 6.5 miles east of the current U.S./Mexico International Border Crossing in Calexico. The 2015 Transportation Concept is to construct SR-7, a new north-south four lane highway with access control. SR-7 will connect the new Port of Entry (POE) to Interstate 8. The new POE and SR-7 will support trade growth and the approved North American Free Trade Agreement (NAFTA) between the United States and Mexico. SR-7 is needed to provide adequate border infrastructure to accommodate the anticipated increase in commercial carrier activity between the U.S. and Mexico. The new POE will also relieve existing congestion at the existing Calexico POE on SR-111 and will reduce the environmental effects of border traffic delays.

SR-7 will be constructed in two non consecutive segments. The first segment is a STIP project that will connect the proposed border crossing with SR-98 and is scheduled for construction in fiscal year 1995. A Project Study Report/Project Report on this first phase was completed in February, 1993. A preferred alignment has been selected. It is a refinement of the Eastern Alternative discussed in the PSR/PR. Route adoption of this preferred alignment was approved by the California Transportation Commission (CTC) in October, 1993. A final Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) dated August, 1993 has also been prepared for the new Port of Entry (POE) facility and this segment of SR-7. Additionally, an EIS/EIR Addendum was completed in June, 1994.

The second segment will connect SR-98 with I-8. A Draft Project Study Report on this second segment was completed in June, 1994. Several alternative alignment options are being examined, including Orchard Road, Barbara Worth Road, or improving SR-98 from the SR-7/SR-98 junction to SR-111. These three alternatives will remain under consideration until a preferred alternative is selected during the environmental process. This segment is not programmed, however, it is expected to be constructed within the 20 year planning period. Most of the traffic to and from the new POE will travel on SR-98 between SR-7 and SR-111 where there is access to Interstate 8, especially without the development of SR-7 from SR-98 to I-8. It is anticipated that SR-98 and Cole Road will be operating beyond capacity in the future, therefore, facility improvements will be needed. Further information on SR-98 can be found in the July, 1994 Transportation Concept Report (TCR) for SR-98.

In order to document the increase in transborder commercial vehicle traffic resulting from increased international trade, Caltrans conducted a Border Crossing and Customhouse Broker Survey in March, 1993. The survey results included the annual number of truck trips and commodity tonnage that pass through California Ports-of-Entry (POEs). The survey also determined the number and percentage of truck trips and commodity tonnage that remain in California or leave the state, as well as the origins and destinations of the truck trips and commodity tonnage by state or by California county. Further information regarding this goods movement survey can be found in a Caltrans report entitled Transportation Issues Along the California/Mexico Border dated September, 1993.

An additional Caltrans PSR/PR has been approved for the development of a state of the art Class A Commercial Vehicle Inspection Facility adjacent to the proposed Calexico East POE. Future construction of this facility will help accommodate the expected increase in transborder commercial vehicle traffic.

Regarding the transit component for SR-7, there is no current passenger rail service to Calexico. However, the Riverside County Transportation Commission (RCTC) conducted the Los Angeles, Coachella Valley, Imperial County Intercity Rail Feasibility Study. This study recommends the implementation of intercity passenger rail service on existing rail lines between Los Angeles, Riverside and Imperial County. To accomplish this, it is proposed to extend passenger rail service south from the Southern Pacific Yuma line along the existing Southern Pacific El Centro Branch to Brawley, El Centro and Calexico. Caltrans Division of Rail is currently studying this corridor as a follow-up to the RCTC study.

Many of the arterials throughout the Calexico area may require improvements. Therefore, the arterial component for SR-7 includes the need to develop a comprehensive transportation circulation element study in the Calexico area. This future Imperial County/Calexico corridor study would identify the existing

and proposed transportation network and would also include the development of a traffic study for the study area.

The 2015 Transportation Concept for SR-7 includes the feasibility of providing Transportation System Management (TSM) improvements, such as park and ride facilities. It also includes providing feasible strategies to improve traffic flow and accommodate increased person trips.

For both segments of SR-7, future operational and safety improvements should be considered and implemented where needed.

2015 Transportation Concept Facility Improvements

Table S-2 shows facility improvements to SR-7 that are part of the 2015 Transportation Concept. The Peak Hour Volume to Capacity (V/C) ratio and Peak Hour Operating LOS listed assume completion of the proposed facility improvement. These improvements and the 2015 Transportation Concept LOS are also shown on the Transportation Concept Map on page 10.

TABLE S-2
2015 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Segment/ County Post Mile	Improvement Description/ Included in the 1994 STIP	Peak Hour V/C Ratio	Peak Hour Operating LOS*	Concept LOS**
1 IMP 0.0 - 1.2	Construct 4AC/ YES	.50	C	D
2 IMP 1.2 - 6.7	Construct 4AC/ NO	.31	B	D

4AC = Four lane highway (with access control where appropriate or feasible)
LOS = Level of Service
STIP = State Transportation Improvement Plan
V/C = Volume to Capacity

* Peak Hour Operating LOS includes provision of State highway and arterial improvements.
** Concept LOS is based on District System Planning LOS guidelines.

INTRODUCTION

Statement of Planning Intent

The system planning process consists of three products: the District System Management Plan (DSMP), the Transportation Development Plan (TDP), and the Transportation Concept Report (TCR).

The DSMP is a strategic and policy planning document that describes how the District envisions the transportation system will be maintained, managed and developed over the next 20 years and beyond. The DSMP is developed in partnership with regional and local transportation planning agencies. It describes the overall goals and policies which relate to District transportation issues. The goals and policies consider the entire transportation system, regardless of jurisdiction, and addresses all modes which move people, goods, and services. The DSMP summarizes 20 year planning concepts and proposed transportation improvements on a system wide level, and influences the development of future transportation concepts and development plans.

The TDP identifies transportation corridor improvements for the five year period following the seven year State Transportation Improvement Program (STIP). The TDP analyzes proposed system improvements in terms of two funding scenarios, timing, local and regional priorities, interregional travel and system continuity. Together, the STIP and the TDP constitute the first 12 years of the 20 year planning period and act as a benchmark for measuring progress toward attainment of the 20 year concept.

The TCR is a planning document which describes the Department's basic approach to the development of a given corridor. Considering reasonable financial constraints and projected travel demand, the TCR establishes a 20 year transportation planning concept and identifies modal transportation options needed to achieve the concept. The concept considers operating levels of service (LOS), modal facility types, and vehicle occupancy. The TCR also considers potential long term needs for the route beyond the 20 year planning period. The long term needs focus on corridor preservation, the Ultimate Transportation Corridor (UTC) and new technologies. Minimum right of way widths are also established in the UTC for all conventional highway portions of the transportation system.

The TCR is a preliminary planning phase that leads to subsequent programming and the project development process. As such, the specific proposed nature of improvements (i.e., number of lanes, access control, etc.) may change in later project development stages, with final determinations made during the Project Study Report, Project Report and design phases.

Each TCR must be viewed as an integral part of a planned system. The TCR is based on the completion of the 20 year system. The system has been developed to meet anticipated travel demand generated from regional growth forecasts. Removal of any portion of a route from the system will adversely affect travel on parallel or intersecting routes.

The TCR is prepared by Caltrans District staff in cooperation with local and regional agencies. The TCR will be updated as necessary as conditions change or new information is obtained.

ROUTE DESCRIPTION

State Route 7 (SR-7), is a proposed four lane highway with access control which will begin at the proposed United States/Mexico Calexico East International Border Crossing, approximately 6.5 miles to the east of the existing Calexico/Mexicali International Border Crossing. The approximate 6.7 mile route will follow a north/south alignment from the border crossing to SR-98 and will eventually continue on a north/south alignment to the future terminus at I-8.

Purpose of Route

The primary purpose of SR-7 is to ultimately connect the proposed Calexico East International Border Crossing to Interstate 8. SR-7 will serve international, recreational, commercial and commuter traffic.

It is needed to provide adequate border infrastructure to accommodate the anticipated increase in commercial carrier activity between the U.S. and Mexico. This new port of entry supports the approved North American Free Trade Agreement (NAFTA) between the United States and Mexico.

Existing Facility Classifications

SR-7 is functionally classified as an Other Principal Arterial from the new border crossing to I-8.

SR-7 will be designated as a route for large trucks. It is expected to be designated as part of the national network for Surface Transportation Assistance Act (STAA) trucks. SR-7 is also expected to be part of the National Highway System (NHS).

SR-7 is included as a part of the Interregional Road System (IRRS).

For maintenance programming purposes, the State highway system has been classified as Class 1, 2, and 3 highways based on the Maintenance Service Level (MSL) descriptive definitions. MSL 1 contains route segments in urban areas

functionally classified as Interstate, Other Freeway or Expressway, or Other Principal Arterial. In rural areas, the MSL 1 designation contains route segments functionally classified as Interstate or Other Principal Arterial.

MSL 2 contains route segments classified as Other Principal Arterial that are not in MSL 1, route segments functionally classified as minor arterials that are not in MSL 3, and route segments with a 2010 Transportation Concept of Maintain and Improve.

MSL 3 indicates a route or route segment with the lowest maintenance priority. Typically, MSL 3 contains route segments with a Transportation Concept of Maintain Only. These are route segments functionally classified as major or minor collectors and local roads, route segments with relatively low traffic volumes and route segments being considered for relinquishment, rescission, or where a new alignment will replace the existing facility. MSL 3 roads are not candidates for pavement rehabilitation but are to be maintained with maintenance funds. There is an exception if a road cannot be maintained without rehabilitation. Route segments where the District does not anticipate spending money and route segments where route continuity is necessary are also assigned an MSL 3 designation.

SR-7 will be classified as a MSL 1 route for its entire length. SR-98 is classified as MSL 2 from SR-111 to Bonds Corner Road.

Route Segments

SR-7 will be examined in two segments for traffic analysis purposes. Table 1 lists the segments for this route and includes some of the information used as criteria for segment divisions. A map is attached at the end of this report which indicates the location and post miles of the segments used in this analysis.

TABLE 1
ROUTE SEGMENTATION

Segment/ County Post Mile	Location	No. Lanes/ Facility Type	Rural/ Urban	Functional Classification
1 IMP 0.0 - 1.2	International Border to SR-98	4/Conventional Highway*	R	Other Principal Arterial
2 IMP 1.2 - 6.7	SR-98 to Interstate 8	4/Conventional Highway*	R	Other Principal Arterial

* with access control where appropriate or feasible

Existing Facility

SR-7 is an unconstructed route. It is proposed to be constructed approximately 6.5 miles east of the existing ten lane Calexico/Mexicali International Border Crossing. SR-111, a four lane conventional highway, connects to this existing border crossing. Currently, this is the only highway that provides direct north/south access to the border in the Calexico/Mexicali area.

There are several arterial streets in the Calexico area that could provide alternative routes for interregional travel. However, most of these arterials may fail to provide an efficient alternative due to physical inadequacies, access conflicts and lack of route continuity. Improvements may be required. Table 2 lists some of these arterials.

TABLE 2
ARTERIAL STREETS IN THE CALEXICO AREA

Arterial Name	Description
Kubler Road	Drew Road to Clark Road
Evan Hewes Highway	W. Jct. I-8 to E. Jct I-8
Interstate 8	W. Jct.98 to E. Jct.98
Dogwood Road	SR-98 to SR-78
Cole Road	Calexico West City Limit to Bowker Road
Anza Road	Pulliam Road to Barbara Worth Road
Heber Road	La Brucherie Road to Vencil Road
Ross Road	Haskel Road to Mets Road
McCabe Road	Silsbee Road to Towland Road
SR-111	Calexico Border Crossing to I-10
Bowker Road	Anza Road to S-80
Barbara Worth Road	Anza Road to S-80
Bonds Corner Road	SR-98 to I-8

The Imperial County Transit System provides transit service to the Calexico area with eight daily roundtrips to Calexico and eight transit stops throughout the city. Additionally, Greyhound Trailways provides intraregional bus service between Los Angeles, Phoenix and El Paso which includes three stops daily in Calexico.

ROUTE ANALYSIS

This section further discusses existing conditions and introduces future Post-1994 STIP/No Build conditions and deficiencies for SR-7. No Build conditions only take into account future facilities which are part of the 1994 State Transportation Improvement Program (STIP). The STIP includes all improvements planned for the next seven years. This section also includes land use/corridor growth and demographic analyses for existing and future conditions in this corridor.

Existing and Future Operating Conditions

Table 3 shows existing and future 1995 No Build, and 2015 No Build operating conditions for SR-7. The future conditions are based on Caltrans traffic forecasts and are for planning purposes only. Future conditions also assume the completion of only those projects in the 1994 STIP.

TABLE 3
EXISTING AND FUTURE (NO BUILD) OPERATING CONDITIONS

Segment/ County Post Mile	Year	No. Lanes/ Facility Type	ADT	Peak Hour V/C Ratio	Peak Hour Operating LOS
1 IMP 0.0 - 1.2	1994	Unconstructed			
	1995	4AC	18,800	0.24	B
	2015	4AC	34,800	0.45	B
2 IMP 1.2 - 6.7	1994	Unconstructed			
	1995	Unconstructed			
	2015	Unconstructed			

4AC = Four lane highway (with access control where appropriate or feasible)
ADT = Average Daily Traffic
LOS = Level of Service
V/C = Volume to Capacity

Source: Caltrans

Corridor Growth and Demographics

Imperial Valley is a major resource of agricultural products. Due to its large manmade irrigation complex, the valley is one of the largest agricultural areas in the nation. Some of Imperial Valley's crops are cotton, sugar beet, alfalfa for hay, safflower, lettuce, and vegetable crops like asparagus, broccoli and carrots. Imperial Valley is also a well known cattle-feeding area, with an annual revenue in the hundreds of millions of dollars. Imperial County land use policies support the preservation of agricultural lands in the unincorporated areas.

Land use in the proposed SR-7 corridor is mostly agricultural, except for some small areas of residential and industrial mixed use development. These agricultural lands are irrigated from lined canals and drained to unlined ditches. These facilities cross under the existing county roads via siphons and culverts owned by the Imperial Irrigation District (IID). It is anticipated that the majority of utility relocation for future SR-7 would consist of accommodating this network of IID canals and drains.

In the area of the new POE, Imperial County has designated a future Specific Plan Area (SPA). It encompasses approximately 1,700 acres and will be developed primarily with industrial and office land uses. It will include warehouse space for manufacturers, customs brokers, freight forwarders and administrative

offices. Secondary land uses would include retail, restaurant, service commercial outlets, a truck service center, motel accommodations, low to moderately priced residential housing, and recreation.

In addition to the agricultural area, Imperial County possesses some very popular recreational activities. The Salton Sea has year-round fishing. There is seasonal hunting of quail, duck, pheasant, chukar, geese and dove throughout the Valley. Minerals and fossils lie exposed throughout the Valley, bringing many hikers, collectors and enthusiasts. There is also the Anza-Borrego Desert State Park, the Imperial Sand Dunes, the Colorado River, and access to the Gulf of California.

Potential developments not included in the 2015 traffic analysis that could induce growth include the new Centinela State prison near Seeley, the expansion of the Calexico Airport, and the growth of the geothermal industry located in the Salton Sea area west of Calipatria and southwest of Niland.

Proposed major developments generating 10,000 trips or more that will impact proposed SR-7 in Imperial County are shown in Table 4. Additional traffic generators in the area adjacent to SR-7 could significantly increase congestion on area surface streets and the State highway.

TABLE 4
TRIP INDUCING MAJOR DEVELOPMENT PROJECTS

Proposed Development	Dwelling Units	Acreage	Trips Generated Daily
Calexico Enterprise Zone	-	254	60,420
Sharma-Harelson Annexation	-	136	46,146
Rancho Frontera Subdivision	837	163	16,294
CM Ranch Conceptual Plan	7,100	1,800	unavailable*
Rancho Norte Subdivision Project		142	37,758
Total:			160,618

* A Traffic Study will be prepared as part of the environmental document.
Source: Caltrans District 11 Planning Studies Branch

The City of Calexico covers approximately four square miles. The City's planning area encompasses 14 square miles. Calexico had a 1993 population of 22,246 and is the fastest growing city in Imperial County with an estimated average annual population increase of over three percent. Land use within Calexico's incorporated boundaries include 1,128 acres allocated to housing, 163 acres for commercial use, 85 acres for industrial use, and the remaining acreage allocated to agricultural and open space uses.

The City of Calexico has a labor force of approximately 6,620 workers. The largest employment sector in Calexico is the retail trade industry which employs

26 percent of the workforce. This is supported by a large influx of buyers from Mexicali. The second largest industry in Calexico is agriculture, which employs about 18 percent of the workforce. Additional primary employers include education and construction.

Employment in Calexico is growing steadily as the population increase. With the development of Mexicali as a premier industrial city, the economic multiplier effect will continue to promote employment growth in Calexico. Projected economic growth, along with the implementation of NAFTA, should provide stimulus to future economic development in the Imperial Valley, including the City of Calexico.

Directly south of Calexico, California, across the International Border, lies the Capital of Baja California, Mexicali, Mexico, a thriving and growing city, with an official 1990 population of 601,938. Mexicali is projected to grow to over one million by the year 2015. Mexicali has experienced a 1,907 percent increase in population since 1930. The economy of Mexicali has been historically centered around the agricultural industry. Major crops include grains, vegetables and cotton. The economy of Mexicali has recently been stimulated by the development of Maquiladora industrial plants. These plants provide labor-intensive manufacturing services for U.S.-based industries. Mexicali currently has 131 Maquiladoras in Mexicali, the third largest number of plants along the U.S./Mexico border. It is expected to rank number one in Maquiladoras in the future, surpassing Tijuana and Juarez. In addition, Mexicali has about 1,200 industrial plants, 5,000 commercial business firms, and 1,700 service-oriented companies.

Table 5 lists employment growth statistics for Imperial County.

TABLE 5
EMPLOYMENT GROWTH

Area	1990	2010	Percent Change From Base Year
Imperial County	47,923	71,670	49.6

Source: SCAG 1993 Draft Growth Management Plan

The housing market in Calexico is relatively tight, with a 1990 vacancy rate of 2.1 percent. The average number of persons per occupied housing unit in Calexico is 3.92. Growth in housing is projected to occur at a slower pace than population growth, resulting in an even tighter future housing market. Table 6 lists current and future housing and population data for appropriate jurisdictions in Imperial County.

TABLE 6
HOUSING AND POPULATION GROWTH

Location	Year	Dwelling Units	Percent Change From Base Year	Population	Percent Change From Base Year
Imperial County	1993	39,580	-	130,996	-
	2010	68,006	71.8	215,854	64.8
Calexico	1993	5,447	-	22,246	-
	2010	8,655	58.9	30,283	36.1
El Centro	1993	11,081	-	36,450	-
	2010	18,512	85.7	64,795	77.8

Source: SCAG 1993 Draft Growth Management Plan .

The existing Calexico POE is the second busiest U.S./Mexico International Border crossing in California, and it is the third busiest in the entire United States. In 1992, the Calexico POE processed a northbound total of 7,8 million pedestrians, 7.9 million private vehicles, and 145,000 commercial trucks. These figures represent a 21 percent increase since 1990 in pedestrian crossings, a two percent increase in private vehicles, and a five percent increase in commercial truck crossings. Overall, the Calexico POE experienced an 18.3 increase in the number of crossings from 1986 to 1990. This was the most rapid growth rate of any major U.S./Mexico Border Ports of Entry for that time period. The United States General Services Administration (GSA) has determined that the Calexico POE is overburdened and is operating beyond its capacity. Table 7 provides a historical perspective on the number of border crossings at Calexico.

TABLE 7
NORTH-BOUND BORDER CROSSINGS: 1977, 1984 AND 1992

	1977	1984	1992
U.S. Citizens	3,608,339	3,898,674	7,612,112
Non-U.S. Citizens	11,360,609	12,277,039	23,232,000
Calexico Totals	14,968,948	16,175,713	30,844,112

Source: Draft U.S./Mexico Border Profile, Barton/Aschmann Associates

Mexico is providing infrastructure to accommodate future travel growth and trade increases and to entice development to the surrounding area. Currently, a new four lane limited access toll road from Tijuana to Mexicali is being constructed. The segment from Tijuana to Tecate, Mexico was completed in December, 1992, and the remaining segment from Tecate to Mexicali is scheduled for future completion.

TRANSPORTATION CONCEPT (2015)

A Transportation Concept is composed of two parts: 1) a minimum tolerable LOS for the peak hours, 2) a description of the physical facility necessary to accommodate that LOS.

The 2015 Transportation Concept is determined by a detailed analysis of each route. Factors that are influential in the selection process include land use, terrain, travel characteristics, relative importance of the route, relationship to other routes, urban or rural areas, political acceptance, functional classification, ADT, safety, and cost of improvements. Additionally, the 2015 Transportation Concept include the future implementation of intermodal and Transportation System Management (TSM) improvements. These items are discussed in subsequent sections of this report. The 2015 Transportation Concepts have been approved by District management and reflect a reasonable expectation of accomplishment rather than unattainable aspirations.

In Imperial County, the 2015 Transportation Concept is set at LOS "D" for most segments. High Level Connections, such as I-8, have a 2015 Transportation Concept LOS of "B" in the rural areas.

Table 8 shows the specific 2015 Transportation Concept facility type and 2015 Transportation Concept LOS for proposed SR-7. The 2015 Peak Hour Operating LOS is based on Caltrans traffic forecasts.

The post-2015 UTC describes the future right of way requirements in terms of the facility type and the number of lanes and the minimum right of way in feet that may be needed to accommodate corridor trips beyond the year 2015.

TABLE 8
2015 TRANSPORTATION CONCEPT

	Segment/ County Post Mile	Location	No. Lanes/ Facility Type	ADT	Peak Hour V/C Ratio	Peak Hour Operating LOS*	Concept LOS**	Rural/ Urban	UTC/ Width
1	IMP 0.0 - 1.2	U.S./Mexico Border to SR98	4AC	39,200	.50	C	D	R	6AC/204
2	IMP 1.2 - 6.7	SR 98 to I 8	4AC	23,800	.31	B	D	R	6AC/204

4AC = Four lane highway (with access control where appropriate or feasible)
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UTC = Ultimate Transportation Corridor
V/C = Volume to Capacity

* Peak Hour Operating LOS includes provision of State highway and arterial improvements
** Concept LOS is based on District System Planning LOS guidelines.

Note: Widths are in feet.

DISTRICT 11 TRANSPORTATION CONCEPT MAP
STATE ROUTE 7

CONCEPT RATIONALE

It is anticipated that NAFTA will promote extensive free trade throughout the southern California border region. The current level of travel and trade is expected to increase with the implementation of NAFTA. However, at this time it is difficult to estimate or measure the increase in travel or trade. As NAFTA implementation occurs, established trends in traffic and trade volumes can then be analyzed to project future impacts.

The Federal General Services Administration (GSA) has proposed a new Calexico East International Border Crossing approximately 6.5 miles east of the current U.S./Mexico International Border Crossing in Calexico. The 2015 Transportation Concept is to construct SR-7, a new north-south four lane highway with access control. SR-7 will connect the new Port of Entry (POE) to Interstate 8. The new POE and SR-7 will support trade growth and the approved North American Free Trade Agreement (NAFTA) between the United States and Mexico.

SR-7 is needed to provide adequate border infrastructure to accommodate the anticipated increase in commercial carrier activity between the U.S. and Mexico. The new POE will also relieve existing congestion at the existing Calexico POE on SR-111 and will reduce the environmental effects of border traffic delays. This is projected to increase in the future. Additionally, the construction contract for the new Mexicali III POE across the border from the new U.S. POE was awarded in June 1993. This facility is scheduled for future completion.

SR-7 will be constructed in two non consecutive segments. The first segment is a STIP project that will connect the proposed border crossing with SR-98 and is scheduled for construction in fiscal year 1995. A Project Study Report/Project Report on this first phase was completed in February, 1993. A preferred alignment has been selected. It is a refinement of the Eastern Alternative discussed in the PSR/PR. A Draft EIS/EIR for the new POE and this first segment of SR-7 was completed in February, 1993. Route adoption of this preferred alignment was approved by the California Transportation Commission (CTC) in October, 1993. A final Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) was released in August, 1993. Additionally, an EIR/EIS Addendum was completed in June, 1994. The Addendum includes refinements to the Final EIS/EIR, additional traffic information, and a description of alternative alignments for the second segment of SR-7.

SR-7 is also included in the 1990 Imperial County Transportation Plan and the Southern California Association of Governments (SCAG) Regional Transportation Improvement Program, which includes a conformity finding under the 1990 Clean Air Act Amendments.

As required by the final Statewide and Metropoloitan Planning regulations adopted in November, 1993 under the Intermodal Surface Transportation Efficiency Act (ISTEA), a Major Investment Study (MIS) must be developed for highway or transit improvements of substantial cost that are expected to significantly affect capacity, traffic flow, level of service, or mode share. The purpose of the MIS is to provide a decision-making tool for determining transportation investment strategies. The MIS ensures that all reasonable alternatives have been considered in subsequent regional transportation plans and environmental documents.

An MIS consultation for the first segment of SR-7 was conducted in June, 1994. It included representatives from Caltrans, IVAG and transit oprerators. Discussion focused on previous evaluation and comparison of alternative transportation modes, alignments, operating configurations, and involved input and review by the public, local officials, subregional planning agencies, transportation providers, and government agencies. The MIS consultation resulted in a decision that sufficient evaluation of investment strategies has been previously accomplished in the appropriate environmental documents and regional plans.

The second segment is not programmed and will connect SR-98 with I-8. A Draft Project Study Report on this second segment was completed in June, 1994. Several alternative alignment options are being examined, including Orchard Road, Barbara Worth Road, or improving SR-98 from the SR-7/SR-98 junction to SR-111. These three alternatives will remain under consideration until a preferred alternative is selected during the environmental process.

The Orchard Road alignment alternative proposes construction of a 5.5 mile divided four lane conventional highway on new alignment from the terminus of the first segment of SR-7 north to the I-8/Orchard Road interchange. There are two proposed at-grade, non-signalized intersections at SR-7/Heber Road and SR-7/McCabe Road. There is also an access modification planned for the existing I-8/Orchard Road interchange. This would include the provision of additional ramps, realigning some existing ramps, and widening the existing Orchard Road overcrossing to accommodate an additional 12 foot travel way.

The Barbara Worth Road alignment alternative proposes widening SR-98 to a four lane highway from SR-7 to Barbara Worth Road, then constructing a 5.5 mile divided highway on new alignment from SR-98 north to I-8. A new SR-7/I-8 interchange would be constructed in this alternative, and the existing Barbara Worth overcrossing would be widened by 22 feet.

The SR-98 alignment alternative proposes widening SR-98 to four lanes from the terminus of the first segment of SR-7 west to Meadows/Andrade Avenue. There is an existing divided four lane conventional highway from Meadows/Andrade Avenue to SR-111. If this alternative is selected, it is anticipated that a portion of

the new POE traffic would utilize Cole Road and Bowker Road to access I-8 from the POE. It is expected that these surface streets will be operating beyond capacity in the future, therefore, facility improvements will be needed.

The City of Calexico and the Border Trade Alliance are sponsoring a legislative proposal to widen this portion of SR-98 to a four lane facility. The proposal also includes upgrading the portion of Cole Road easterly of SR-111 from a two lane to a four lane facility. This project is not currently programmed or funded.

The City of Calexico and the County of Imperial consider widening SR-98 to four lanes from near Encinas Avenue to proposed SR-7 an important project within the "Mid-Term" time frame of 1995 to 2015 as shown in the June, 1990 Imperial County Transportation Plan. In addition, Cole Road is considered as a possible alternative to the existing alignment of SR-98 from the Cole Road/SR-98 intersection to SR-111. This segment of Cole Road may be studied in the future as a possible candidate for inclusion into the State Highway System. However, further studies will only occur if requested by the City of Calexico and the County of Imperial.

In order to document the increase in transborder commercial vehicle traffic resulting from increased international trade, Caltrans conducted a Border Crossing and Customhouse Broker Survey in March, 1993. The survey results included the annual number of truck trips and commodity tonnage that pass through California Ports-of-Entry (POEs). The survey also determined the number and percentage of truck trips and commodity tonnage that remain in California or leave the state, as well as the origins and destinations of the truck trips and commodity tonnage by state or by California county.

Currently, the number of commercial vehicles traveling northbound at the existing Calexico POE is about 1000 per day. The annual average number of northbound and southbound truck trips at this POE is 296,100. At least 25% of the goods transported through this POE and the other California/Mexico POEs have origins and destinations outside of California to every state in the continental U.S, Hawaii, Canada, Asia, and the Panama Canal Zone. Only 16% have origins and destinations within Imperial County, while 59% go to and from other counties in California. Further information regarding this goods movement survey can be found in a Caltrans report entitled Transportation Issues Along the California/Mexico Border dated September, 1993. This report also includes information on a wide variety of transborder transportation planning projects and studies.

An additional Caltrans PSR/PR has been approved for the development of a state of the art Class A Commercial Vehicle Inspection Facility adjacent to the proposed Calexico East POE. Future construction of this facility will help accommodate the expected increase in transborder commercial vehicle traffic.

Regarding the transit component for SR-7, there is no current passenger rail service to Calexico. However, the Riverside County Transportation Commission (RCTC) conducted the Los Angeles, Coachella Valley, Imperial County Intercity Rail Feasibility Study. This study recommends the implementation of intercity passenger rail service on existing rail lines between Los Angeles, Riverside and Imperial County. To accomplish this, it is proposed to extend passenger rail service south from the Southern Pacific Yuma line along the existing Southern Pacific El Centro Branch to Brawley, El Centro and Calexico. Caltrans Division of Rail is currently studying this corridor as a follow-up to the RCTC study.

Many of the arterials throughout the Calexico area may require improvements. Therefore, the arterial component for SR-7 includes the need to develop a comprehensive transportation circulation element study in the Calexico area. This future Imperial County/Calexico corridor study would identify the existing and proposed transportation network and would also include the development of a traffic study for the study area.

The 2015 Transportation Concept for SR-7 includes the feasibility of providing Transportation System Management (TSM) improvements, such as park and ride facilities. It also includes providing feasible strategies to improve traffic flow and accommodate increased person trips.

For both segments of SR-7, future operational and safety improvements should be considered and implemented where needed.

SUPPLEMENTAL SYSTEM COMPONENT

Along with the efficient movement of people, goods and services, there are other factors affected by the route. Additional strategies, such as Air Quality and Transportation System Management (TSM) improvements should be implemented where appropriate and are discussed below.

Air Quality

SR-7 is included in the Southeast Desert Air Basin (SEDAB). The South Coast Air Quality Management District (SCAQMD) has developed the SEDAB Air Quality Management Plan. This states that pollutants from the South Coast Air Basin (SCAB), which is composed primarily of the Los Angeles Metropolitan area, are transported via prevailing winds into the SEDAB area. Exceedances of California and national ambient air quality standards for O_3 occur infrequently in the Coachella Valley area. Exceedances of the California O_3 standards occur only a few times a year in Imperial County. Refuse burning in Mexicali, field burning and release of dust particles from travel on unpaved roads contribute to the suspended particulates (PM-10) in the air. The U.S. Environmental Protection Agency (EPA) and the Secretaria de Desarollo Social (SEDSOL) have

agreed to bilateral participation in a future PM-10 study between Mexico and Imperial County.

Transportation System Management Strategies

TSM is a strategy whose goal is the accommodation of travel demand on existing transportation facilities without increasing congestion. The District 11 Long Range Operations Plan (LROP) states that we will accommodate safe and efficient goods movement by providing truck brake inspection areas, runaway truck escape ramps, mini-sites for safety inspections, and consider construction of separate truck and passenger vehicle facilities. The LROP also includes the provision of improved rural highway operations and safety through spot improvements, realignments, and passing lanes or turnouts. An additional provision in the LROP is the full development of the Transportation Management Center (TMC). TSM strategies also include the provision of future Park and Ride facilities.

EXTERNAL PLANS COORDINATION

The 2015 Transportation Concept for SR-98 is consistent with the 1990 Imperial County Transportation Plan. The 2015 Transportation Concept is also consistent with the City of Calexico 1992 Draft General Plan and Zoning Ordinance. In general, this Transportation Concept Report is consistent with the August, 1993 Final EIS/EIR for the Calexico East Border Station and SR-7. It is also consistent with the February, 1993 PSR/PR for SR-7 from the new Border station to SR-98 and the June, 1994 Draft PSR for the second segment of SR-7.

2015 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

As part of the 2015 Transportation Concept, Segment 1 will connect the border crossing to SR-98 within the 1994 STIP planning period. In addition, Segment 2 should be constructed within the twenty year planning period. Table 9 displays the mainlane facility improvements that are part of the 2015 Transportation Concept. The Peak Hour Volume to Capacity (V/C) Ratio and Peak Hour Operating LOS listed assume completion of the proposed improvements. These improvements and the 2015 Transportation Concept LOS are also shown on the map on page 10.

TABLE 9
2015 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

	Segment/ County Post Mile	Improvement Description/ Included in the 1992 STIP	Peak Hour V/C Ratio	Peak Hour Operating LOS*	Concept LOS**
1	IMP 0.0 - 1.2	Construct 4AC/ YES	.50	C	D
2	IMP 1.2 - 6.7	Construct 4AC/ NO	.31	B	D

4AC = Four lane highway (with access control where appropriate or feasible)
LOS = Level of Service
STIP = State Transportation Improvement Plan
V/C = Volume to Capacity

* Peak Hour Operating LOS includes provision of State highway and arterial improvements.
** Concept LOS is based on District System Planning LOS guidelines.

ULTIMATE TRANSPORTATION CORRIDOR

The UTC describes the long term (beyond the 20 year planning period) right of way requirements for a particular segment. The long term needs are determined by Advanced Transportation System Development (ATSD) activities which include investigation and analysis of Community Plans, General Plans, Transportation Plans, Land Use Plans, Environmental Documents, and other planning documents. The intent is to take advantage of or develop opportunities for long term right of way acquisition and to work with local and regional agencies to implement corridor preservation measures. The UTC proposes the number of lanes, the facility type, and the minimum right of way width in feet for the conventional highway portions of the route. This width can be variable depending upon the dimensions of cross-sectional elements and specific circumstances which may require narrow widths. Minimum right of way width includes the roadbed, shoulder, clear recovery area, and minimum catch point distance to the cut or fill slope. Additional right of way may be required for structures, slope modifications and drainage facilities.

For SR-7, the UTC is a six lane facility with a 204 foot minimum right of way width based on the February, 1993 PSR/PR for SR-7 from the International Border Crossing to SR-98 and the June, 1994 Draft PSR for the second segment of SR-7.

LIST OF SYSTEM PLANNING ACRONYMS

ADT	Average Daily Traffic
APCD	Air Pollution Control District
ATSD	Advanced Transportation System Development
CMP	Congestion Management Program
CTC	California Transportation Commission
DSMP	District System Management Plan
EPA	Environmental Protection Agency
FAI	Federal Aid Interstate
FAP	Federal Aid Primary
FAS	Federal Aid Secondary
FAU	Federal Aid Urban
GSA	General Services Administration
HOV	High Occupancy Vehicle
IRRS	Interregional Road System
ISTEA	Intermodal Surface Transportation Efficiency Act
IVAG	Imperial Valley Association of Governments
LOS	Level of Service
LROP	Long Range Operations Plan
LRT	Light Rail Transit
MSL	Maintenance Service Level
MTDB	Metropolitan Transit Development Board
NAFTA	North American Free Trade Agreement
NHS	National Highway System
PHV	Peak Hour Volume
P.M.	Post Mile
RCR	Route Concept Report
RCTC	Riverside County Transportation Commission
RTP	Regional Transportation Plan
R/W	Right of Way
SANDAG	San Diego Association of Governments
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SEDAB	Southeast Desert Air Basin
SEDSOL	Secretaria de Desarollo Social
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
TASAS	Traffic Accident Surveillance and Analysis System
TCM	Transportation Control Measures
TCR	Transportation Concept Report
TDM	Transportation Demand Management
TMA	Transportation Management Association
TMC	Traffic Management Center
TSM	Transportation Systems Management
UTC	Ultimate Transportation Corridor
V/C	Volume to Capacity

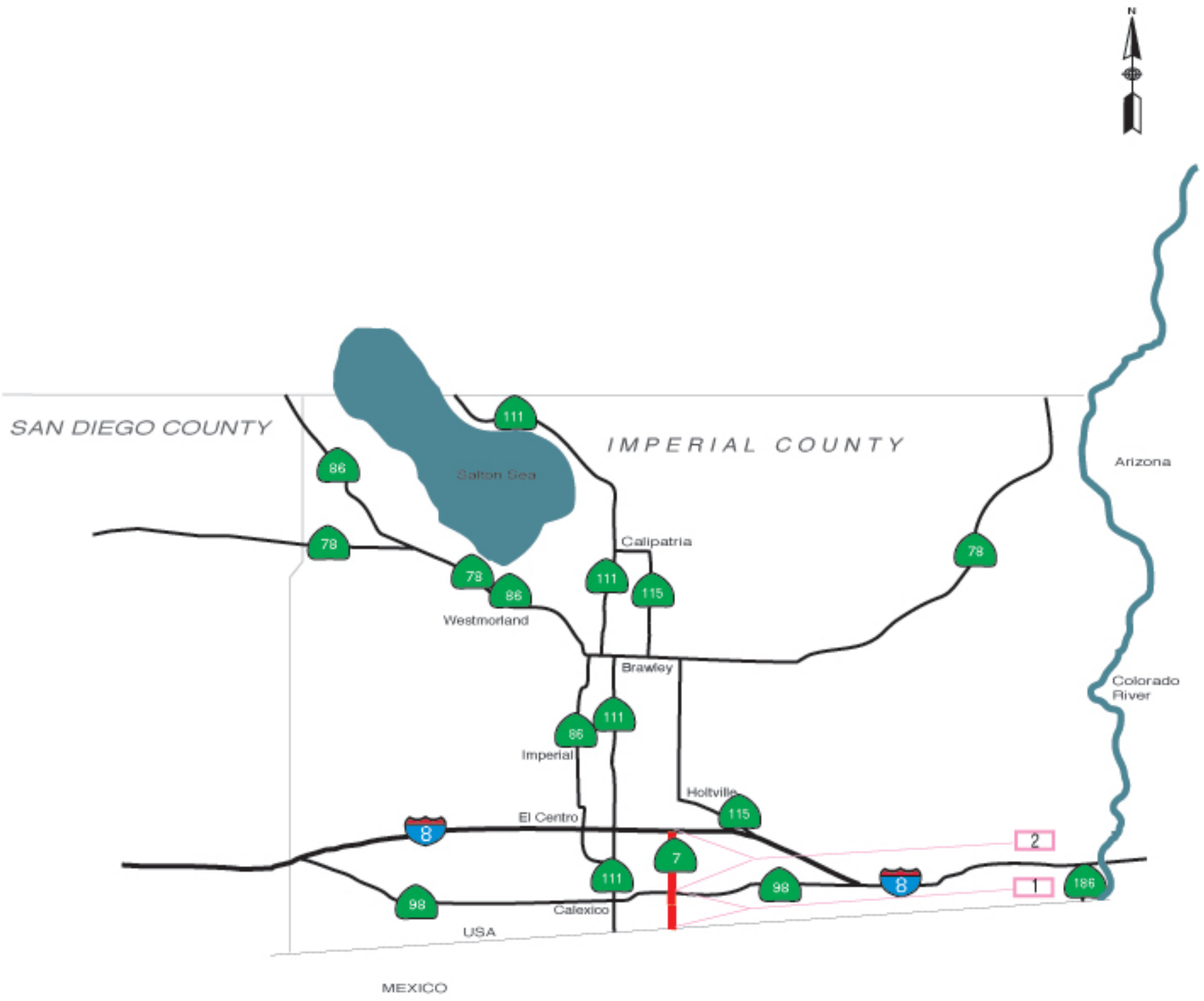
SMART CORRIDOR (Author's Definition) Employs technology to improve the operating efficiency of <u>all</u> the roadways within a corridor in order to reduce congestion.

LEVEL OF SERVICE (LOS) DEFINITIONS

LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort and convenience, and safety. LOS definitions can generally be categorized as follows:

LOS	D/C	Congestion/Delay	Traffic Description
		(Used for conventional highways)	
"B"	0.00-0.45	None	Free to stable flow, light to moderate volumes.
"C"	0.46-0.65	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.66-0.85	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	0.86-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
F	>1.00	Considerable	Forced or breakdown flow Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.

2015 TRANSPORTATION CONCEPT



2015 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Segment/ County Post-Mile	Location	Improvement Description	Peak Hour V/C Ratio	Peak Hour Operating LOS	Concept LOS
1 IMP 0.0 - 1.2	International Border to SR-98	Construct 4AC	.50	C	D
2 IMP 1.2 - 6.7	SR-98 to I-8	Construct 4AC	.31	B	D

4AC = Four lane highway with access control

NOTE: The precise location of Segment 2 is currently undetermined pending the outcome of further alignment and environmental studies.

Map not to scale

August 1994
System Planning Branch

I approve this Transportation Concept Report as the guide for development of State Route 7 over the next 20 years.

Submitted By:

Carol Boland — 9-19-94

CAROL BOLAND, Chief
System Planning Branch

Date

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Date